

Notice of Allowability	Application No.	Applicant(s)	
	09/448,374	DARDINSKI ET AL.	
	Examiner Todd Ingberg	Art Unit 2193	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address--

All claims being allowable, PROSECUTION ON THE MERITS IS (OR REMAINS) CLOSED in this application. If not included herewith (or previously mailed), a Notice of Allowance (PTOL-85) or other appropriate communication will be mailed in due course. **THIS NOTICE OF ALLOWABILITY IS NOT A GRANT OF PATENT RIGHTS.** This application is subject to withdrawal from issue at the initiative of the Office or upon petition by the applicant. See 37 CFR 1.313 and MPEP 1308.

1. This communication is responsive to 6/22/2005.
2. The allowed claim(s) is/are 1-41,43-77 and 79.
3. Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
 - a) All
 - b) Some*
 - c) None
 of the:
 1. Certified copies of the priority documents have been received.
 2. Certified copies of the priority documents have been received in Application No. _____.
 3. Copies of the certified copies of the priority documents have been received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

* Certified copies not received: _____.

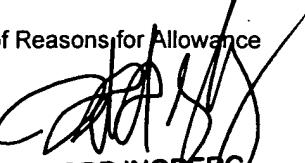
Applicant has THREE MONTHS FROM THE "MAILING DATE" of this communication to file a reply complying with the requirements noted below. Failure to timely comply will result in ABANDONMENT of this application.
THIS THREE-MONTH PERIOD IS NOT EXTENDABLE.

4. A SUBSTITUTE OATH OR DECLARATION must be submitted. Note the attached EXAMINER'S AMENDMENT or NOTICE OF INFORMAL PATENT APPLICATION (PTO-152) which gives reason(s) why the oath or declaration is deficient.
5. CORRECTED DRAWINGS (as "replacement sheets") must be submitted.
 - (a) including changes required by the Notice of Draftsperson's Patent Drawing Review (PTO-948) attached
 - 1) hereto or 2) to Paper No./Mail Date _____.
 - (b) including changes required by the attached Examiner's Amendment / Comment or in the Office action of Paper No./Mail Date _____.

Identifying indicia such as the application number (see 37 CFR 1.84(c)) should be written on the drawings in the front (not the back) of each sheet. Replacement sheet(s) should be labeled as such in the header according to 37 CFR 1.121(d).
6. DEPOSIT OF and/or INFORMATION about the deposit of BIOLOGICAL MATERIAL must be submitted. Note the attached Examiner's comment regarding REQUIREMENT FOR THE DEPOSIT OF BIOLOGICAL MATERIAL.

Attachment(s)

1. Notice of References Cited (PTO-892)
2. Notice of Draftsperson's Patent Drawing Review (PTO-948)
3. Information Disclosure Statements (PTO-1449 or PTO/SB/08),
Paper No./Mail Date 4/27/05 **IN PART SEE 1449**
4. Examiner's Comment Regarding Requirement for Deposit
of Biological Material
5. Notice of Informal Patent Application (PTO-152)
6. Interview Summary (PTO-413),
Paper No./Mail Date 9/19/05.
7. Examiner's Amendment/Comment
8. Examiner's Statement of Reasons for Allowance
9. Other _____.


TODD INGBERG
PRIMARY EXAMINER

EXAMINER'S AMENDMENT

1. An examiner's amendment to the record appears below. Should the changes and/or additions be unacceptable to applicant, an amendment may be filed as provided by 37 CFR 1.312. To ensure consideration of such an amendment, it MUST be submitted no later than the payment of the issue fee.

Authorization for this examiner's amendment was given in a telephone interview with David Powsner on September 19, 2005.

The application has been amended as follows:

I. Marked Copy of Amended Claims

1. (Currently Amended) Apparatus for configuring a control system, the apparatus executing on a digital data processor, comprising:

a plurality of objects, each of which represents an entity,
each object being associated with one or more parameters, each parameter pertaining to a characteristic of the entity represented by the object,
at least one object (“descendant” object) being defined as a descendant of another object (“ancestor” object) and being associated with one or more parameters of the ancestor object,
a change during configuration to a parameter of an ancestor object being effective as to a descendant object with which that parameter is associated without recompilation of those objects.
2. (Original) Apparatus according to claim 1, including an editor that facilitates definition, during configuration, of an association between a parameter and an object.

3. (Original) Apparatus according to claim 2, including functionality that facilitates definition, during configuration, of an object as a descendant of another object.
4. (Original) Apparatus according to claim 2, wherein each parameter has one or more attributes, and wherein the apparatus has an editor that facilitates definition, during configuration, of a value of an attribute.
5. (Original) Apparatus according to claim 1, wherein an object represents an entity within any of (i) a controlled system, (ii) the control system, (iii) a control level hierarchy, and (iv) the apparatus for configuring the control system.
6. (Original) Apparatus according to claim 5, wherein an entity includes any of a field device, control processor, block, loop, compound, historian, object type category, object connection, parameter connection, display placeholder, graphical display entity, and report.
7. (Original) Apparatus according to claim 1, wherein each parameter has one or more attributes, and wherein the attributes of a parameter define any of the following with the respect to the characteristic to which the parameter pertains: name, grouping, display label, data type, behavior, help information, edit type, data value range, data value, formula definition, and display format.
8. (Previously Presented) Apparatus according to claim 1, wherein a change during configuration to a parameter of an ancestor object is effective as to a descendant object with which that parameter is associated, regardless of whether that change is made before or after the descendant is any of defined and created, and wherein that change is effective without recompilation of those objects.
9. (Currently Amended) Apparatus for configuring a control system, the apparatus executing on a digital data processor, comprising:
a plurality of objects,

each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object,

at least one object (~~“descendant” object~~) being defined as a descendant of another object (~~“ancestor” object~~) and as being associated with the parameters of the ancestor object,

a change during configuration to a parameter of an ancestor object being effective as to a descendant object with which that parameter is associated, without recompilation of those objects.

10. (Original) Apparatus according to claim 9, wherein a descendant object is associated with the parameters of the ancestor object from which it descends, and is associated with further parameters as consequence one or more parameters definitions contained in, or associated with, the descendant object.

11. (Currently Amended) Apparatus for configuring a control system, the apparatus executing on a digital data processor, comprising:

a plurality of objects, each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object, wherein an object represents an entity within any of (i) a controlled system, (ii) the control system, (iii) a control level hierarchy, and (iv) the apparatus for configuring the control system,

at least one object being associated with a parameter as a consequence of any of a parameter definition, parameter override and parameter modification contained or associated with the object,

at least one object being a descendant of another object (~~“ancestor” object~~) and being associated with one or more parameters with which the ancestor object is associated such that change during configuration to a parameter of an ancestor object is effective as to a descendant object with which that parameter is associated without recompilation of those objects,

a parameter with which an object is associated as a consequence of any of a parameter definition, parameter override and parameter modification takes precedence over a parameter with which an object is associated as a consequence of being defined as a descendant of another object.

12. (Original) Apparatus according to claim 11, wherein a change during configuration to a parameter of an ancestor object is effective as to a descendant object with which that parameter is associated, except insofar as that parameter is associated with the descendant object as a consequence of any of a parameter definition, parameter override and parameter modification.
13. (Original) Apparatus according to claim 12, comprising
 - a second object that is defined as a descendant of a first object, and
 - a third object defined as a descendant of the second object.
14. (Original) Apparatus according to claim 13, wherein a parameter associated with the second object as a consequence of any of a parameter definition, parameter override and parameter modification takes precedence as to the second and third objects over a corresponding parameter associated with the first object.
15. (Original) Apparatus accord to claim 13, wherein a parameter associated with the second object as a consequence of any of a parameter definition, parameter override and parameter modification is associated with the third object as a consequence of descendancy, regardless of whether a corresponding parameter is associated with the first object.
16. (Currently Amended) Apparatus according to claim 11, wherein at least one object (~~“modified” object~~) is associated with another object (~~“modifier” object~~) for purposes of parameter modification, and wherein the modified object associated with one or more parameters of the modifier object.

17. (Original) Apparatus according to any of claims 9 and 11, wherein an entity includes any of a field device, control processor, block, loop, compound, historian, object type category, object connection, parameter connection, display placeholder, graphical display entity, and report.
18. (Original) Apparatus according to claim 17, wherein each parameter has one or more attributes defining any of the following with the respect to the characteristic to which the parameter pertains: name, grouping, display label, data type, behavior, help information, edit type, data value range, data value, formula definition, and display format.
19. (Currently Amended) Apparatus for configuring a control system, the apparatus executing on a digital data processor, comprising:
 - a plurality of objects,
 - each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object,
 - at least one object (~~“descendant” object~~) being defined as a descendant of another object (~~“ancestor” object~~) and as being associated with one or more parameters of the ancestor object, a change during configuration to a parameter of an ancestor object being effective as to a descendant object with which that parameter is associated,
 - at least one object being associated with one or more parameter groups, each of which defines a grouping for one or more parameters associated with that object.
20. (Original) Apparatus according to claim 19, wherein a parameter group defines a grouping with which one or more parameters are presented for any of editing and reporting.
21. (Original) Apparatus according to claim 20, wherein, as a consequence of descendancy, a descendant object is associated with the parameter groups of the ancestor object from which it descends.

22. (Currently Amended) A method for configuring a control system, the method comprising the steps of:

representing entities with objects, each object being associated with one or more parameters, each parameter pertaining to a characteristic of the entity represented by the object,

defining at least one object (~~“descendant” object~~) as a descendant of another object (~~“ancestor” object~~),

associating a descendant object with one or more parameters of the ancestor object from which that descendant object descends, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object.

23. (Original) A method according to claim 22, including the step of defining, during configuration, an association between an parameter and an object.

24. (Original) A method according to claim 23, including the step of defining, during configuration, an object as a descendant of another object.

25. (Original) A method according to claim 23, wherein each parameter has one or more attributes, and wherein the method includes the step of defining, during configuration, a value of an attribute.

26. (Original) A method according to claim 22, wherein an object represents an entity within any of (i) a controlled system, (ii) the control system, (iii) a control level hierarchy, and (iv) the apparatus for configuring the control system.

27. (Original) A method according to claim 26, wherein an entity includes any of a field device, control processor, block, loop, compound, historian, object type category, object connection, parameter connection, display placeholder, graphical display entity, and report.

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28. (Original) A method according to claim 22, wherein each parameter has one or more attributes, and wherein the attributes of a parameter define any of the following with the respect to the characteristic to which the parameter pertains: name, grouping, display label, data type, behavior, help information, edit type, data value range, data value, formula definition, and display format.
29. (Original) A method according to claim 22, including the step of making effective as to a descendant object a change, during configuration, to a parameter of the ancestor object from which the descendant object descends, regardless of whether that change is made before or after the descendant is any of defined and created.
30. (Currently Amended) A method for configuring a control system, the method comprising the steps of:

representing entities with objects, each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object,

defining at least one object (~~“descendant” object~~) as a descendant of another object (~~“ancestor” object~~),

associating a descendant object with the parameters of the ancestor object from which that descendant object descends, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object.

31. (Original) A method according to claim 30, comprising the step of associating a descendant object with parameters in addition to those of the ancestor object from which it descends.
32. (Currently Amended) A method for configuring a control system, the method comprising the steps of:

representing entities with a plurality of objects,

associating each object with one or more parameters as a consequence of any of a parameter definition, parameter override and parameter modification contained or associated with the object,

each parameter pertaining to a characteristic of an entity represented by the object, wherein an entity models an entity within any of (i) a controlled system, (ii) the control system, (iii) a control level hierarchy, and (iv) the apparatus for configuring the control system,

defining at least one object as a descendant of another object (~~"ancestor" object~~),

associating a descendant object with one or more parameters with which the ancestor object is associated, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object, except as to a parameter with which the descendant object is associated as a consequence of any of a parameter definition, parameter override and parameter modification.

33. (Original) A method according to claim 32, comprising the steps of
 - defining a second object as a descendant of a first object, and
 - defining a third object as a descendant of the second object.
34. (Original) A method according to claim 33, comprising the step of associating the second and third objects with one or more parameters of the first object, except as to a parameter associated with the second object as a consequence of any of a parameter definition, parameter override and parameter modification.
35. (Original) A method accord to claim 33, associating the third object with a parameter associated with the second object as a consequence of any of a parameter definition, parameter override and parameter modification, regardless of whether a corresponding parameter is associated with the first object.
36. (Currently Amended) A method according to claim 32, comprising the steps of

defining at least one object (“modified” object) as being associated with another object (“modifier” object) for purposes of parameter modification,

associating a modified object with one or more parameters of the associated modifier object, and making effective as to that modified object a change, during configuration, to a parameter of that modifier object.

37. (Original) A method according to any of claims 30 and 33, wherein an entity includes any of a field device, control processor, block, loop, compound, historian, object type category, object connection, parameter connection, display placeholder, graphical display entity, and report.
38. (Original) A method according to claim 37, wherein each parameter has one or more attributes defining any of the following with the respect to the characteristic to which the parameter pertains: name, grouping, display label, data type, behavior, help information, edit type, data value range, data value, formula definition, and display format.
39. (Currently Amended) A method for configuring a control system, the method comprising the steps of:

representing entities with objects, each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object,

defining at least one object (“descendant” object) being defined as a descendant of another object (“ancestor” object),

associating a descendant object with one or more parameters of the ancestor object from which that descendant object descends, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object without recompilation of those objects,

associating at least one object with one or more parameter groups, each of which defines a grouping for one or more parameters associated with that object.

40. (Original) A method according to claim 39, comprising the step of presenting one or more parameters of an object during any of editing and reporting as a function of a parameter group associated with that object.
41. (Original) A method according to claim 39, comprising associating a descendant object with the ancestor object from which that descendant object descends.

Claim 42 (cancelled).

43. (Currently Amended) A method for configuring a control system, the method comprising the steps of:

representing entities with objects, each object being associated with one or more parameters, each parameter pertaining to a characteristic of the entity represented by the object;

defining at least one object—“descendant” object as a descendant of another object “ancestor” object,

associating a descendant object with one or more parameters of the ancestor object from which that descendant object descends, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object without recompilation of those objects,

configuring the control system in accord with one or more of the objects.

44. (Currently Amended) Apparatus for configuring a process control system, the apparatus executing on a digital data processor, comprising:

a plurality of objects, each of which represents an entity selected from the group of entities including a block, block definition, modifier block, modifier block definition, block collection, composite block definition, I/O block, loop template, simple loop, and template-derived loop,

each object being associated with one or more parameters, each parameter pertaining to a characteristic of the entity represented by the object,

at least one object (~~“descendant” object~~) being defined as a descendant of another object (~~“ancestor” object~~) and being associated with one or more parameters of the ancestor object,

a change during configuration to a parameter of an ancestor object being effective as to a descendant object with which that parameter is associated without recompilation of those objects.

45. (Original) Apparatus according to claim 44, wherein each parameter has one or more attributes, and wherein the attributes of a parameter define any of the following with the respect to the characteristic to which the parameter pertains: name, grouping, display label, data type, behavior, help information, edit type, data value range, data value, formula definition, and display format.
46. (Currently Amended) Apparatus for configuring a process control system, the apparatus executing on a digital data processor, comprising:

a plurality of objects, each of which represents an entity selected from the group of entities including a block, block definition, modifier block, modifier block definition, block collection, composite block definition, I/O block, loop template, simple loop, and template-derived loop,

each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object,

at least one object (~~“descendant” object~~) being defined as a descendant of another object (~~“ancestor” object~~) and as being associated with the parameters of the ancestor object,

a change during configuration to a parameter of an ancestor object being effective as to a descendant object with which that parameter is associated without recompilation of those objects.

47. (Original) Apparatus according to claim 46, wherein a descendant object is associated with the parameters of the ancestor object from which it descends, and is associated with further parameters as consequence one or more parameters definitions contained in, or associated with, the descendant object.
48. (Currently Amended) Apparatus for configuring a process control system, the apparatus executing on a digital data processor, comprising:

a plurality of objects, each of which represents an entity selected from the group of entities including a block, block definition, modifier block, modifier block definition, block collection, composite block definition, I/O block, loop template, simple loop, and template-derived loop,

each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object, wherein an object represents an entity within any of (i) the controlled process, (ii) the control system, (iii) a control level hierarchy, and (iv) the apparatus for configuring the control system,

at least one object being associated with a parameter as a consequence of any of a parameter definition, parameter override and parameter modification contained or associated with the object,

at least one object being a descendant of another object (~~“ancestor” object~~) and being associated with one or more parameters with which the ancestor object is associated such that change during configuration to a parameter of an ancestor object is effective as to a descendant object with which that parameter is associated without recompilation of those objects,

a parameter with which an object is associated as a consequence of any of a parameter definition, parameter override and parameter modification takes precedence over a parameter with which an object is associated as a consequence of being defined as a descendant of another object.

49. (Original) Apparatus according to claim 48, wherein a change during configuration to a parameter of an ancestor object is effective as to a descendant object with which that parameter is associated, except insofar as that parameter is associated with the descendant object as a consequence of any of a parameter definition, parameter override and parameter modification.
50. (Original) Apparatus according to claim 49, comprising
 - a second object that is defined as a descendant of a first object, and
 - a third object defined as a descendant of the second object.
51. (Original) Apparatus according to claim 50, wherein a parameter associated with the second object as a consequence of any of a parameter definition, parameter override and parameter modification takes precedence as to the second and third objects over a corresponding parameter associated with the first object.
52. (Original) Apparatus accord to claim 50, wherein a parameter associated with the second object as a consequence of any of a parameter definition, parameter override and parameter modification is associated with the third object as a consequence of decendancy, regardless of whether a corresponding parameter is associated with the first object.
53. (Currently Amended) Apparatus according to claim 48, wherein at least one object (~~“modified” object~~) is associated with another object (~~“modifier” object~~) for purposes of parameter modification, and wherein the modified object associated with one or more parameters of the modifier object.
54. (Original) Apparatus according to claim 48, wherein each parameter has one or more attributes defining any of the following with the respect to the characteristic to which the parameter pertains: name, grouping, display label, data type, behavior, help information, edit type, data value range, data value, formula definition, and display format.

55. (Currently Amended) Apparatus for configuring a process control system, the apparatus executing on a digital data processor, comprising:

a plurality of objects, each of which represents an entity selected from the group of entities including a block, block definition, modifier block, modifier block definition, block collection, composite block definition, I/O block, loop template, simple loop, and template-derived loop,

each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object,

at least one object (~~“descendant” object~~) being defined as a descendant of another object (~~“ancestor” object~~) and as being associated with one or more parameters of the ancestor object, a change during configuration to a parameter of an ancestor object being effective as to a descendant object with which that parameter is associated without recompilation of those objects,

at least one object being associated with one or more parameter groups, each of which defines a grouping for one or more parameters associated with that object.

56. (Original) Apparatus according to claim 55, wherein a parameter group defines a grouping with which one or more parameters are presented for any of editing and reporting.

57. (Original) Apparatus according to claim 56, wherein, as a consequence of descendancy, a descendant object is associated with the parameter groups of the ancestor object from which it descends.

58. (Currently Amended) A method for configuring a process control system, the method comprising the steps of:

representing entities with objects, each of which represents an entity selected from the group of entities including a block, block definition, modifier block, modifier block

definition, block collection, composite block definition, I/O block, loop template, simple loop, and template-derived loop,

each object being associated with one or more parameters, each parameter pertaining to a characteristic of the entity represented by the object,

defining at least one object (~~"descendant" object~~) as a descendant of another object (~~"ancestor" object~~),

associating a descendant object with one or more parameters of the ancestor object from which that descendant object decends, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object without recompilation of those objects.

59. (Original) A method according to claim 58, including the step of defining, during configuration, an association between an parameter and an object.
60. (Original) A method according to claim 59, including the step of defining, during configuration, an object as a descendant of another object.
61. (Original) A method according to claim 59, wherein each parameter has one or more attributes, and wherein the method includes the step of defining, during configuration, a value of an attribute.
62. (Original) A method according to claim 58, wherein an object represents an entity within any of (i) the control system, (ii) a control level hierarchy, and (iii) the apparatus for configuring the control system.
63. (Original) A method according to claim 58, wherein each parameter has one or more attributes, and wherein the attributes of a parameter define any of the following with the respect to the characteristic to which the parameter pertains: name, grouping, display label, data type, behavior, help information, edit type, data value range, data value, formula definition, and display format.

64. (Original) A method according to claim 58, including the step of making effective as to a descendant object a change, during configuration, to a parameter of the ancestor object from which the descendant object decends, regardless of whether that change is made before or after the descendant is any of defined and created.
65. (Currently Amended) A method for configuring a process control system, the method comprising the steps of:

representing entities with objects, each entity including any of a block, block definition, modifier block, modifier block definition, block collection, composite block definition, I/O block, loop template, simple loop, and template-derived loop,

each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object,

defining at least one object (~~“descendant” object~~) as a descendant of another object (~~“ancestor” object~~),

associating a descendant object with the parameters of the ancestor object from which that descendant object decends, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object without recompilation of those objects.

66. (Original) A method according to claim 65, comprising the step of associating a descendant object with parameters in addition to those of the ancestor object from which it decends.
67. (Currently Amended) A method for configuring a process control system, the method comprising the steps of:

representing entities with objects, the entities including any of a block, block definition, modifier block, modifier block definition, block collection, composite block definition, I/O block, loop template, simple loop, and template-derived loop,

associating each object with one or more parameters as a consequence of any of a parameter definition, parameter override and parameter modification contained or associated with the object,

each parameter pertaining to a characteristic of an entity represented by the object, wherein an entity models an entity within any of (i) the control system, (ii) a control level hierarchy, and (iii) the apparatus for configuring the control system

defining at least one object as a descendant of another object (~~"ancestor" object~~) such that change during configuration to a parameter of an ancestor object is effective as to a descendant object with which that parameter is associated without recompilation of those objects,

associating a descendant object with one or more parameters with which the ancestor object is associated, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object, except as to a parameter with which the descendant object is associated as a consequence of any of a parameter definition, parameter override and parameter modification.

68. (Original) A method according to claim 67, comprising the steps of
 - defining a second object as a descendant of a first object, and
 - defining a third object as a descendant of the second object.
69. (Original) A method according to claim 68, comprising the step of associating the second and third objects with one or more parameters of the first object, except as to a parameter associated with the second object as a consequence of any of a parameter definition, parameter override and parameter modification.
70. (Original) A method accord to claim 68, associating the third object with a parameter associated with the second object as a consequence of any of a parameter definition, parameter override and parameter modification, regardless of whether a corresponding parameter is associated with the first object.

71. (Currently Amended) A method according to claim 67, comprising the steps of defining at least one object (~~"modified" object~~) as being associated with another object (~~"modifier" object~~) for purposes of parameter modification, associating a modified object with one or more parameters of the associated modifier object, and making effective as to that modified object a change, during configuration, to a parameter of that modifier object.

72. (Original) A method according to claim 71, wherein each parameter has one or more attributes defining any of the following with the respect to the characteristic to which the parameter pertains: name, grouping, display label, data type, behavior, help information, edit type, data value range, data value, formula definition, and display format.

73. (Currently Amended) A method for configuring a process control system, the method comprising the steps of: representing entities with objects, the entities including any of a block, block definition, modifier block, modifier block definition, block collection, composite block definition, I/O block, loop template, simple loop, and template-derived loop, each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object, defining at least one object (~~"descendant" object~~) being defined as a descendant of another object (~~"ancestor" object~~), associating a descendant object with one or more parameters of the ancestor object from which that descendant object decends, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object without recompilation of those objects, associating at least one object with one or more parameter groups, each of which defines a grouping for one or more parameters associated with that object.

74. (Currently Amended) A method for configuring a process control system, the method comprising the steps of:

representing entities with objects, the entities including any of a block, block definition, modifier block, modifier block definition, block collection, composite block definition, I/O block, loop template, simple loop, and template-derived loop,

each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object,

defining at least one object (~~“descendant” object~~) being defined as a descendant of another object (~~“ancestor” object~~),

associating a descendant object with one or more parameters of the ancestor object from which that descendant object descends,

changing, during configuration, a parameter of that ancestor object, the change being effective as to a descendant object with which that parameter is associated without recompilation of those objects,

associating at least one object with one or more parameter groups, each of which defines a grouping for one or more parameters associated with that object.

75. (Original) A method according to any of claims 73 and 74, comprising the step of presenting one or more parameters of an object during any of editing and reporting as a function of a parameter group associated with that object.

76. (Original) A method according to any of claims 73 and 74, comprising associating a descendant object with the ancestor object from which that descendant object descends.

77. (Currently Amended) Apparatus for configuring a process control system, the apparatus executing on a digital data processor, comprising:

a plurality of objects, each of which represents an entity,

each object being associated with one or more parameters, each parameter pertaining to a characteristic of the entity represented by the object,

at least one object (~~“descendant” object~~) being defined as a descendant of another object (~~“ancestor” object~~) and being associated with one or more parameters of the ancestor object,

a change during configuration to a parameter of an ancestor object being effective as to a descendant object with which that parameter is associated without recompilation of those objects, and

a download process that configures the control system in accord with one or more of the objects.

Claim 78 (cancelled).

79. (Currently Amended) An electronic commerce-based method for configuring a control system, the method comprising the steps of:

transferring to a digital data processor, as part of any of an e-commerce transaction and a contracted-for transaction, definitions of objects that represent entities,

configuring a control system by defining at least one object (~~“descendant” object~~) as a descendant of another object (~~“ancestor” object~~),

associating a descendant object with one or more parameters of the ancestor object from which that descendant object descends, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object without recompilation of those objects.

Claims 80 – 98 (cancelled).

II. Clean Copy of Amended Claims

1. (Currently Amended) Apparatus for configuring a control system, the apparatus executing on a digital data processor, comprising:
 - a plurality of objects, each of which represents an entity, each object being associated with one or more parameters, each parameter pertaining to a characteristic of the entity represented by the object, at least one object being defined as a descendant of another object and being associated with one or more parameters of the ancestor object, a change during configuration to a parameter of an ancestor object being effective as to a descendant object with which that parameter is associated without recompilation of those objects.
2. (Original) Apparatus according to claim 1, including an editor that facilitates definition, during configuration, of an association between a parameter and an object.
3. (Original) Apparatus according to claim 2, including functionality that facilitates definition, during configuration, of an object as a descendant of another object.
4. (Original) Apparatus according to claim 2, wherein each parameter has one or more attributes, and wherein the apparatus has an editor that facilitates definition, during configuration, of a value of an attribute.
5. (Original) Apparatus according to claim 1, wherein an object represents an entity within any of (i) a controlled system, (ii) the control system, (iii) a control level hierarchy, and (iv) the apparatus for configuring the control system.
6. (Original) Apparatus according to claim 5, wherein an entity includes any of a field device, control processor, block, loop, compound, historian, object type category, object

connection, parameter connection, display placeholder, graphical display entity, and report.

7. (Original) Apparatus according to claim 1, wherein each parameter has one or more attributes, and wherein the attributes of a parameter define any of the following with the respect to the characteristic to which the parameter pertains: name, grouping, display label, data type, behavior, help information, edit type, data value range, data value, formula definition, and display format.
8. (Previously Presented) Apparatus according to claim 1, wherein a change during configuration to a parameter of an ancestor object is effective as to a descendant object with which that parameter is associated, regardless of whether that change is made before or after the descendant is any of defined and created, and wherein that change is effective without recompilation of those objects.
9. (Currently Amended) Apparatus for configuring a control system, the apparatus, comprising:
 - a plurality of objects,
 - each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object,
 - at least one object being defined as a descendant of another object and as being associated with the parameters of the ancestor object,
 - a change during configuration to a parameter of an ancestor object being effective as to a descendant object with which that parameter is associated, without recompilation of those objects.
10. (Original) Apparatus according to claim 9, wherein a descendant object is associated with the parameters of the ancestor object from which it descends, and is associated with further parameters as consequence one or more parameters definitions contained in, or associated with, the descendant object.

11. (Currently Amended) Apparatus for configuring a control system, the apparatus executing on a digital data processor, comprising:

a plurality of objects, each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object, wherein an object represents an entity within any of (i) a controlled system, (ii) the control system, (iii) a control level hierarchy, and (iv) the apparatus for configuring the control system,

at least one object being associated with a parameter as a consequence of any of a parameter definition, parameter override and parameter modification contained or associated with the object,

at least one object being a descendant of another object and being associated with one or more parameters with which the ancestor object is associated such that change during configuration to a parameter of an ancestor object is effective as to a descendant object with which that parameter is associated without recompilation of those objects,

a parameter with which an object is associated as a consequence of any of a parameter definition, parameter override and parameter modification takes precedence over a parameter with which an object is associated as a consequence of being defined as a descendant of another object.

12. (Original) Apparatus according to claim 11, wherein a change during configuration to a parameter of an ancestor object is effective as to a descendant object with which that parameter is associated, except insofar as that parameter is associated with the descendant object as a consequence of any of a parameter definition, parameter override and parameter modification.

13. (Original) Apparatus according to claim 12, comprising

a second object that is defined as a descendant of a first object, and

a third object defined as a descendant of the second object.

14. (Original) Apparatus according to claim 13, wherein a parameter associated with the second object as a consequence of any of a parameter definition, parameter override and parameter modification takes precedence as to the second and third objects over a corresponding parameter associated with the first object.
15. (Original) Apparatus accord to claim 13, wherein a parameter associated with the second object as a consequence of any of a parameter definition, parameter override and parameter modification is associated with the third object as a consequence of descendancy, regardless of whether a corresponding parameter is associated with the first object.
16. (Currently Amended) Apparatus according to claim 11, wherein at least one object is associated with another object for purposes of parameter modification, and wherein the modified object associated with one or more parameters of the modifier object.
17. (Original) Apparatus according to any of claims 9 and 11, wherein an entity includes any of a field device, control processor, block, loop, compound, historian, object type category, object connection, parameter connection, display placeholder, graphical display entity, and report.
18. (Original) Apparatus according to claim 17, wherein each parameter has one or more attributes defining any of the following with the respect to the characteristic to which the parameter pertains: name, grouping, display label, data type, behavior, help information, edit type, data value range, data value, formula definition, and display format.
19. (Currently Amended) Apparatus for configuring a control system, the apparatus executing on a digital data processor, comprising:
 - a plurality of objects,
 - each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object,

at least one object being defined as a descendant of another object and as being associated with one or more parameters of the ancestor object, a change during configuration to a parameter of an ancestor object being effective as to a descendant object with which that parameter is associated,

at least one object being associated with one or more parameter groups, each of which defines a grouping for one or more parameters associated with that object.

20. (Original) Apparatus according to claim 19, wherein a parameter group defines a grouping with which one or more parameters are presented for any of editing and reporting.
21. (Original) Apparatus according to claim 20, wherein, as a consequence of descendancy, a descendant object is associated with the parameter groups of the ancestor object from which it descends.
22. (Currently Amended) A method for configuring a control system, the method comprising the steps of:

representing entities with objects, each object being associated with one or more parameters, each parameter pertaining to a characteristic of the entity represented by the object,

defining at least one object as a descendant of another object, associating a descendant object with one or more parameters of the ancestor object from which that descendant object descends, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object.

23. (Original) A method according to claim 22, including the step of defining, during configuration, an association between a parameter and an object.
24. (Original) A method according to claim 23, including the step of defining, during configuration, an object as a descendant of another object.

25. (Original) A method according to claim 23, wherein each parameter has one or more attributes, and wherein the method includes the step of defining, during configuration, a value of an attribute.
26. (Original) A method according to claim 22, wherein an object represents an entity within any of (i) a controlled system, (ii) the control system, (iii) a control level hierarchy, and (iv) the apparatus for configuring the control system.
27. (Original) A method according to claim 26, wherein an entity includes any of a field device, control processor, block, loop, compound, historian, object type category, object connection, parameter connection, display placeholder, graphical display entity, and report.
28. (Original) A method according to claim 22, wherein each parameter has one or more attributes, and wherein the attributes of a parameter define any of the following with the respect to the characteristic to which the parameter pertains: name, grouping, display label, data type, behavior, help information, edit type, data value range, data value, formula definition, and display format.
29. (Original) A method according to claim 22, including the step of making effective as to a descendant object a change, during configuration, to a parameter of the ancestor object from which the descendant object descends, regardless of whether that change is made before or after the descendant is any of defined and created.
30. (Currently Amended) A method for configuring a control system, the method comprising the steps of:

representing entities with objects, each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object,

defining at least one object as a descendant of another object, associating a descendant object with the parameters of the ancestor object from which that descendant object

descends, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object.

31. (Original) A method according to claim 30, comprising the step of associating a descendant object with parameters in addition to those of the ancestor object from which it descends.
32. (Currently Amended) A method for configuring a control system, the method comprising the steps of:

representing entities with a plurality of objects, associating each object with one or more parameters as a consequence of any of a parameter definition, parameter override and parameter modification contained or associated with the object,

each parameter pertaining to a characteristic of an entity represented by the object, wherein an entity models an entity within any of (i) a controlled system, (ii) the control system, (iii) a control level hierarchy, and (iv) the apparatus for configuring the control system,

defining at least one object as a descendant of another object, associating a descendant object with one or more parameters with which the ancestor object is associated, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object, except as to a parameter with which the descendant object is associated as a consequence of any of a parameter definition, parameter override and parameter modification.

33. (Original) A method according to claim 32, comprising the steps of
 - defining a second object as a descendant of a first object, and
 - defining a third object as a descendant of the second object.
34. (Original) A method according to claim 33, comprising the step of associating the second and third objects with one or more parameters of the first object, except as to a parameter

associated with the second object as a consequence of any of a parameter definition, parameter override and parameter modification.

35. (Original) A method accord to claim 33, associating the third object with a parameter associated with the second object as a consequence of any of a parameter definition, parameter override and parameter modification, regardless of whether a corresponding parameter is associated with the first object.
36. (Currently Amended) A method according to claim 32, comprising the steps of defining at least one object as being associated with another object for purposes of parameter modification, associating a modified object with one or more parameters of the associated modifier object, and making effective as to that modified object a change, during configuration, to a parameter of that modifier object.
37. (Original) A method according to any of claims 30 and 33, wherein an entity includes any of a field device, control processor, block, loop, compound, historian, object type category, object connection, parameter connection, display placeholder, graphical display entity, and report.
38. (Original) A method according to claim 37, wherein each parameter has one or more attributes defining any of the following with the respect to the characteristic to which the parameter pertains: name, grouping, display label, data type, behavior, help information, edit type, data value range, data value, formula definition, and display format.
39. (Currently Amended) A method for configuring a control system, the method comprising the steps of: representing entities with objects, each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object,

defining at least one object being defined as a descendant of another object,

associating a descendant object with one or more parameters of the ancestor object from which that descendant object descends, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object without recompilation of those objects,

associating at least one object with one or more parameter groups, each of which defines a grouping for one or more parameters associated with that object.

40. (Original) A method according to claim 39, comprising the step of presenting one or more parameters of an object during any of editing and reporting as a function of a parameter group associated with that object.
41. (Original) A method according to claim 39, comprising associating a descendant object with the ancestor object from which that descendant object descends.

Claim 42 (cancelled).

43. (Currently Amended) A method for configuring a control system, the method comprising the steps of:

representing entities with objects, each object being associated with one or more parameters, each parameter pertaining to a characteristic of the entity represented by the object, defining at least one object as a descendant of another object,

associating a descendant object with one or more parameters of the ancestor object from which that descendant object descends, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object without recompilation of those objects, configuring the control system in accord with one or more of the objects.

44. (Currently Amended) Apparatus for configuring a process control system, the apparatus executing on a digital data processor, comprising:

a plurality of objects, each of which represents an entity selected from the group of entities including a block, block definition, modifier block, modifier block definition, block collection, composite block definition, I/O block, loop template, simple loop, and template-derived loop,

each object being associated with one or more parameters, each parameter pertaining to a characteristic of the entity represented by the object,

at least one object being defined as a descendant of another object and being associated with one or more parameters of the ancestor object,

a change during configuration to a parameter of an ancestor object being effective as to a descendant object with which that parameter is associated without recompilation of those objects.

45. (Original) Apparatus according to claim 44, wherein each parameter has one or more attributes, and wherein the attributes of a parameter define any of the following with the respect to the characteristic to which the parameter pertains: name, grouping, display label, data type, behavior, help information, edit type, data value range, data value, formula definition, and display format.
46. (Currently Amended) Apparatus for configuring a process control system, the apparatus executing on a digital data processor, comprising:

a plurality of objects, each of which represents an entity selected from the group of entities including a block, block definition, modifier block, modifier block definition, block collection, composite block definition, I/O block, loop template, simple loop, and template-derived loop,

each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object,

at least one object being defined as a descendant of another object and as being associated with the parameters of the ancestor object,

a change during configuration to a parameter of an ancestor object being effective as to a descendant object with which that parameter is associated without recompilation of those objects.

47. (Original) Apparatus according to claim 46, wherein a descendant object is associated with the parameters of the ancestor object from which it descends, and is associated with further parameters as consequence one or more parameters definitions contained in, or associated with, the descendant object.

48. (Currently Amended) Apparatus for configuring a process control system, the apparatus executing on a digital data processor, comprising:

a plurality of objects, each of which represents an entity selected from the group of entities including a block, block definition, modifier block, modifier block definition, block collection, composite block definition, I/O block, loop template, simple loop, and template-derived loop,

each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object, wherein an object represents an entity within any of (i) the controlled process, (ii) the control system, (iii) a control level hierarchy, and (iv) the apparatus for configuring the control system,

at least one object being associated with a parameter as a consequence of any of a parameter definition, parameter override and parameter modification contained or associated with the object,

at least one object being a descendant of another object and being associated with one or more parameters with which the ancestor object is associated such that change during configuration to a parameter of an ancestor object is effective as to a descendant object with which that parameter is associated without recompilation of those objects,

a parameter with which an object is associated as a consequence of any of a parameter definition, parameter override and parameter modification takes precedence over a

parameter with which an object is associated as a consequence of being defined as a descendant of another object.

49. (Original) Apparatus according to claim 48, wherein a change during configuration to a parameter of an ancestor object is effective as to a descendant object with which that parameter is associated, except insofar as that parameter is associated with the descendant object as a consequence of any of a parameter definition, parameter override and parameter modification.
50. (Original) Apparatus according to claim 49, comprising
a second object that is defined as a descendant of a first object, and
a third object defined as a descendant of the second object.
51. (Original) Apparatus according to claim 50, wherein a parameter associated with the second object as a consequence of any of a parameter definition, parameter override and parameter modification takes precedence as to the second and third objects over a corresponding parameter associated with the first object.
52. (Original) Apparatus accord to claim 50, wherein a parameter associated with the second object as a consequence of any of a parameter definition, parameter override and parameter modification is associated with the third object as a consequence of decendancy, regardless of whether a corresponding parameter is associated with the first object.
53. (Currently Amended) Apparatus according to claim 48, wherein at least one object is associated with another object for purposes of parameter modification, and wherein the modified object associated with one or more parameters of the modifier object.
54. (Original) Apparatus according to claim 48, wherein each parameter has one or more attributes defining any of the following with the respect to the characteristic to which the parameter pertains: name, grouping, display label, data type, behavior, help information, edit type, data value range, data value, formula definition, and display format.

55. (Currently Amended) Apparatus for configuring a process control system, the apparatus executing on a digital data processor, comprising:

a plurality of objects, each of which represents an entity selected from the group of entities including a block, block definition, modifier block, modifier block definition, block collection, composite block definition, I/O block, loop template, simple loop, and template-derived loop,

each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object,

at least one object being defined as a descendant of another object and as being associated with one or more parameters of the ancestor object, a change during configuration to a parameter of an ancestor object being effective as to a descendant object with which that parameter is associated without recompilation of those objects,

at least one object being associated with one or more parameter groups, each of which defines a grouping for one or more parameters associated with that object.

56. (Original) Apparatus according to claim 55, wherein a parameter group defines a grouping with which one or more parameters are presented for any of editing and reporting.

57. (Original) Apparatus according to claim 56, wherein, as a consequence of descendancy, a descendant object is associated with the parameter groups of the ancestor object from which it descends.

58. (Currently Amended) A method for configuring a process control system, the method comprising the steps of:

representing entities with objects, each of which represents an entity selected from the group of entities including a block, block definition, modifier block, modifier block definition, block collection, composite block definition, I/O block, loop template, simple loop, and template-derived loop,

each object being associated with one or more parameters, each parameter pertaining to a characteristic of the entity represented by the object,

defining at least one object as a descendant of another object,

associating a descendant object with one or more parameters of the ancestor object from which that descendant object decends, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object without recompilation of those objects.

59. (Original) A method according to claim 58, including the step of defining, during configuration, an association between an parameter and an object.
60. (Original) A method according to claim 59, including the step of defining, during configuration, an object as a descendant of another object.
61. (Original) A method according to claim 59, wherein each parameter has one or more attributes, and wherein the method includes the step of defining, during configuration, a value of an attribute.
62. (Original) A method according to claim 58, wherein an object represents an entity within any of (i) the control system, (ii) a control level hierarchy, and (iii) the apparatus for configuring the control system.
63. (Original) A method according to claim 58, wherein each parameter has one or more attributes, and wherein the attributes of a parameter define any of the following with the respect to the characteristic to which the parameter pertains: name, grouping, display label, data type, behavior, help information, edit type, data value range, data value, formula definition, and display format.
64. (Original) A method according to claim 58, including the step of making effective as to a descendant object a change, during configuration, to a parameter of the ancestor object from which the descendant object decends, regardless of whether that change is made before or after the descendant is any of defined and created.

65. (Currently Amended) A method for configuring a process control system, the method comprising the steps of:

representing entities with objects, each entity including any of a block, block definition, modifier block, modifier block definition, block collection, composite block definition, I/O block, loop template, simple loop, and template-derived loop,

each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object,

defining at least one object as a descendant of another object,

associating a descendant object with the parameters of the ancestor object from which that descendant object decends, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object without recompilation of those objects.

66. (Original) A method according to claim 65, comprising the step of associating a descendant object with parameters in addition to those of the ancestor object from which it decends.

67. (Currently Amended) A method for configuring a process control system, the method comprising the steps of:

representing entities with objects, the entities including any of a block, block definition, modifier block, modifier block definition, block collection, composite block definition, I/O block, loop template, simple loop, and template-derived loop,

associating each object with one or more parameters as a consequence of any of a parameter definition, parameter override and parameter modification contained or associated with the object,

each parameter pertaining to a characteristic of an entity represented by the object, wherein an entity models an entity within any of (i) the control system, (ii) a control level hierarchy, and (iii) the apparatus for configuring the control system

defining at least one object as a descendant of another object such that change during configuration to a parameter of an ancestor object is effective as to a descendant object with which that parameter is associated without recompilation of those objects,

associating a descendant object with one or more parameters with which the ancestor object is associated, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object, except as to a parameter with which the descendant object is associated as a consequence of any of a parameter definition, parameter override and parameter modification.

68. (Original) A method according to claim 67, comprising the steps of
 - defining a second object as a descendant of a first object, and
 - defining a third object as a descendant of the second object.
69. (Original) A method according to claim 68, comprising the step of associating the second and third objects with one or more parameters of the first object, except as to a parameter associated with the second object as a consequence of any of a parameter definition, parameter override and parameter modification.
70. (Original) A method accord to claim 68, associating the third object with a parameter associated with the second object as a consequence of any of a parameter definition, parameter override and parameter modification, regardless of whether a corresponding parameter is associated with the first object.
71. (Currently Amended) A method according to claim 67, comprising the steps of
 - defining at least one object as being associated with another object for purposes of parameter modification,

associating a modified object with one or more parameters of the associated modifier object, and making effective as to that modified object a change, during configuration, to a parameter of that modifier object.

72. (Original) A method according to claim 71, wherein each parameter has one or more attributes defining any of the following with the respect to the characteristic to which the parameter pertains: name, grouping, display label, data type, behavior, help information, edit type, data value range, data value, formula definition, and display format.
73. (Currently Amended) A method for configuring a process control system, the method comprising the steps of:

representing entities with objects, the entities including any of a block, block definition, modifier block, modifier block definition, block collection, composite block definition, I/O block, loop template, simple loop, and template-derived loop,

each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object,

defining at least one object being defined as a descendant of another object,

associating a descendant object with one or more parameters of the ancestor object from which that descendant object decends, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object without recompilation of those objects,

associating at least one object with one or more parameter groups, each of which defines a grouping for one or more parameters associated with that object.

74. (Currently Amended) A method for configuring a process control system, the method comprising the steps of:

representing entities with objects, the entities including any of a block, block definition, modifier block, modifier block definition, block collection, composite block definition, I/O block, loop template, simple loop, and template-derived loop,

each object being associated with one or more parameters, each parameter pertaining to a characteristic of an entity represented by the object,

defining at least one object being defined as a descendant of another object,

associating a descendant object with one or more parameters of the ancestor object from which that descendant object descends,

changing, during configuration, a parameter of that ancestor object, the change being effective as to a descendant object with which that parameter is associated without recompilation of those objects,

associating at least one object with one or more parameter groups, each of which defines a grouping for one or more parameters associated with that object.

75. (Original) A method according to any of claims 73 and 74, comprising the step of presenting one or more parameters of an object during any of editing and reporting as a function of a parameter group associated with that object.
76. (Original) A method according to any of claims 73 and 74, comprising associating a descendant object with the ancestor object from which that descendant object descends.
77. (Currently Amended) Apparatus for configuring a process control system, the apparatus executing on a digital data processor, comprising:

a plurality of objects, each of which represents an entity,

each object being associated with one or more parameters, each parameter pertaining to a characteristic of the entity represented by the object,

at least one object being defined as a descendant of another object and being associated with one or more parameters of the ancestor object,

a change during configuration to a parameter of an ancestor object being effective as to a descendant object with which that parameter is associated without recompilation of those objects, and

a download process that configures the control system in accord with one or more of the objects.

Claim 78 (cancelled).

79. (Currently Amended) An electronic commerce-based method for configuring a control system, the method comprising the steps of:

transferring to a digital data processor, as part of any of an e-commerce transaction and a contracted-for transaction, definitions of objects that represent entities,

configuring a control system by defining at least one object as a descendant of another object,

associating a descendant object with one or more parameters of the ancestor object from which that descendant object descends, and making effective as to that descendant object a change, during configuration, to a parameter of that ancestor object without recompilation of those objects.

Claims 80 – 98 (cancelled).

REASONS FOR ALLOWANCE

2. The following is an examiner's statement of reasons for allowance:

Applicant's response on pages 20-28 are persuasive.

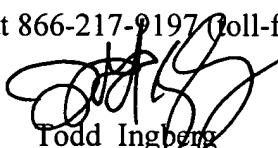
Any comments considered necessary by applicant must be submitted no later than the payment of the issue fee and, to avoid processing delays, should preferably accompany the issue fee. Such submissions should be clearly labeled "Comments on Statement of Reasons for Allowance."

Correspondence Information

3. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Todd Ingberg whose telephone number is (571) 272-3723. The examiner can normally be reached on during the work week..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kakali Chaki can be reached on (571) 272-3719. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Todd Ingberg
Primary Examiner
Art Unit 2193